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EXAMINER	
DALEY, CHRISTOPHER ANTHONY	
ART UNIT	**PAPER NUMBER**
2111	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/712,151	LOFFINK, JOHN S.	
	Examiner	Art Unit	
	Christopher A. Daley	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 20 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1 – 2,4 – 6, 8 - 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Sheffield (T10/03-27r0 SAS-1.1 Support for SATA Port Selector).

4. As to claim 1, Sheffield discloses a storage network, comprising: multiple SCSI controllers; (Shefield teaches on page 2, and figure 1of a storage network with a plurality of SCSI controllers, STP Initiator (A – C)

an expander device coupled to each controller; (Shefield teaches of expander device I and expander device J that are coupled to initiator (A – C))

at least one bridge device, wherein each bridge device is coupled to a plurality of expander devices; (Shefield teaches of bridge devices PS coupled to said expander devices I and J)

and at least one Serial ATA drive, wherein each Serial ATA drive is coupled to an output port of the bridge device. (Shefield teaches of serial ATA device coupled to the bridge device PS)

5. As to claim 2, Sheffield discloses the storage network of claim 1, wherein the bridge device is operable to translate serial data communications from the Serial Attached SCSI protocol to the Serial ATA protocol. (Shefield teaches on page 4, 3.1.x SATA port selector of converting the SCSI protocol to SATA protocol).

6. As to claim 4, Sheffield discloses the storage network of claim 2, wherein each bridge device is operable to arbitrate between data streams such that the Serial ATA drive coupled to the bridge drive receives, at any one time, only one data stream. (Shefield teaches of the port selector providing an arbitration capability by not allowing simultaneous access, on page 4, paragraph 1).

7. As to claim 5, Sheffield discloses the storage network of claim 2, wherein each bridge device is operable to route communications from the Serial ATA drive to an expander device that is associated with the SCSI controller to whom the communication from the Serial ATA drive is directed. (Shefield teaches in figure 2 on page 3 of communication from the drive on an active port to the expander device A and expander device B).

8. As to claim 6, Sheffield discloses the storage network of claim 2, wherein the serial data communications in the Serial Attached SCSI protocol include serial data formatted according to the Serial ATA Tunneling protocol;

and wherein each bridge device is operable to arbitrate between data streams such that the Serial ATA drive coupled to the bridge drive receives, at any one time, only one data stream. (Shefield teaches on page 3 and figure 2 of said arbitration scheme. Illustration of the active port between expander device A and expander device B is shown).

9. As to claim 8, Sheffield discloses the storage network of claim 1, wherein each bridge device is associated with a single Serial ATA drive. (Shefield teaches on page 2, figure 1 of disk drive X is associated to only a single bridge, PS).

10. As to claims 9 and 14, Sheffield discloses a method for translating data directed data to a Serial ATA drive in a Serial Attached SCSI storage network, comprising the steps of: providing a bridge device interposed at the input port of the serial ATA drive, the bridge device comprising: a plurality of input ports coupled to other elements of the storage network and operable to receive data in Serial Attached SCSI protocol; (Shefield teaches in figure 1 of a bridge device, port selector PS, with a plurality of input ports from expander devices I and J. The expanders are coupled to the controllers' initiators (A – C)

and an output port coupled to the Serial ATA drive. (Shefield teaches on page 3, figure 2 of the bridge device PS is connected to the SATA disk X).

Shefield discloses a translation node operable to translate the data from the Serial Attached SCSI protocol to the Serial ATA protocol; (Shefield teaches of translating data

from SAS (SCSI protocol to SATA protocol in its problem definition on page 1. It would be inherent that said translator is embodied in bridge)

11. As to claim 10, Sheffield discloses the storage network of claim 1, wherein the bridge device is operable to translate serial data communications from the Serial Attached SCSI protocol to the Serial ATA protocol. (Shefield teaches on page 4, 3.1.x SATA port selector of converting the SCSI protocol to SATA protocol).

12. As to claim 11, Sheffield discloses the method for translating data directed to a Serial ATA drive in a Serial Attached SCSI network of claim 9, wherein the bridge device is coupled between multiple expander devices and a Serial ATA drive such that each input port is coupled to an expander device. (Shefield teaches in figure 1 on page 2 of a network with multiple expander devices I and J with bridge device, port selector coupled to said expanders. A serial ATA drive is coupled to each port selector).

13. As to claim 12, Sheffield discloses the method for translating data directed to a Serial ATA drive in a Serial Attached SCSI network of claim 11, wherein the provided bridge devices further comprises a arbiter node operable to manage the flow of data in the Serial Attached SCSI protocol to the translation node. (Shefield teaches of the port selector providing an arbitration capability by not allowing simultaneous access, on page 4, paragraph 1).

14. As to claim 13, Sheffield discloses the method for translating data directed to a Serial ATA drive in a Serial Attached SCSI network of claim 11, wherein the arbiter node is operable to route communications from the Serial ATA drive coupled to the output node of the bridge device to an expander device associated with to SCSI controller to whom the communication is directed. . (Shefield teaches in figure 2 on page 3 of communication from the drive on an active port to the expander device A and expander device B).

15. As to claim 15, Sheffield discloses the bridge device of claim 14, wherein the bridge device is associated with a single Serial ATA drive. (Shefield teaches on page 2, figure 1 of disk drive X is associated to only a single bridge, PS).

16. As to claim 16, Sheffield discloses the bridge device of claim 15, wherein the bridge device is coupled to at least two expander devices; (Shefield teaches on page 3, figure 2 of two expander device A and B are associated with bridge device, port selector)

and wherein each expander device is associated with a single SCSI controller. (It would have been obvious to have a single controller configuration as the multiple controller embodiment illustrates a fail-safe system, where the other controllers serve as back ups.)

17. As to claim 17, Sheffield discloses the bridge device of claim 16, further comprising an arbiter for managing flow of data from each of the input ports such that only a single stream of serial data is being translated at any one time at the translation node. (Shefield teaches on page 3 and figure 2 of said arbitration scheme. Illustration of the active port between expander device A and expander device B is shown).

18. As to claim 18, Sheffield discloses the bridge device, further comprising an arbiter for managing the flow of serial data from the Serial ATA drive such that data is directed from the translation node to an input port associated with an expander device that is operable to route the serial data to the SCSI controller to whom the serial data is directed. (Shefield teaches in figure 2 on page 3 of communication from the drive on an active port to the expander device A and expander device B).

19. As to claim 19, Sheffield discloses the bridge device, further comprising an arbiter operable to, manage the flow of data from each of the input ports such that only a single stream of serial data is being translated at any one time at the translation node; (Shefield teaches of the port selector providing an arbitration capability by not allowing simultaneous access, on page 4, paragraph 1).

and manage the flow of serial data from the Serial ATA drive such that data is directed from the translation node to an input port associated with an expander device that is operable to route the serial data to the SCSI controller to whom the serial data is

directed.(Shefield teaches in figure 2 on page 3 of communication from the drive on an active port to the expander device A and expander device B).

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

21. Claims 3,7, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shefield in view of Elliot (Serial Attached SCSI Link Layer – part 2).

22. As to claim 3, Sheffield does not explicitly disclose, wherein the serial data communications in the Serial Attached SCSI protocol include serial data formatted according to the Serial ATA Tunneling protocol. (However Elliott teaches of the Serial ATA Tunneling protocol on page 61. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Shefield and Elliott to have a system that covers all the possible ATA protocols in the bridge device).

23. As to claim 7, Sheffield discloses;

each bridge device is operable to arbitrate between data streams such that the Serial ATA drive coupled to the bridge drive receives, at any one time, only one data stream; wherein each bridge device is operable to arbitrate between data streams such that the

Serial ATA drive coupled to the bridge drive receives, at any one time, only one data stream; (Shefield teaches on page 3 and figure 2 of said arbitration scheme. Illustration of the active port between expander device A and expander device B is shown).

Shefield does not explicitly serial data formatted according to the Serial ATA Tunneling protocol. (However, Elliott teaches of the Serial ATA Tunneling protocol on page 61).

24. As to claim 20, Sheffield does not explicitly disclose translate data in the Serial ATA Tunneling Protocol. (However, Elliott teaches said translation on page 39, specifying the protocol for said exchange. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Shefield and Elliott to have the most comprehensive protocol set represented in the specifications).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher A. Daley whose telephone number is 571 272 3625. The examiner can normally be reached on 9 am. - 4p m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 571 272 3632. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CAD
7/10/2005

TIM VO
PRIMARY EXAMINER